

REMARKS/ARGUMENTS

In view of the foregoing amendments and following remarks, favorable reconsideration of the pending claims is respectfully requested.

Status of the Claims

Claims 1, 2, 4, and 8-15 are pending. Claims 3 and 5-7 have been cancelled.

Claims 14 and 15 have been amended to depend on Claims 1, 2, 4 and 9-13.

Claim 8 has been amended to show the change in dependency from Claim 7 to Claim 1 as suggested by the Examiner.

Prior Art Rejections

Claims 1, 4, 8, and 13-15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,980,871 to Lukenbach et al. Claim 9 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Lukenbach in view of U.S. Patent Publication No. 2004/0191189 to Choulot et al. Claims 10 and 11 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Lukenbach in view of U.S. Patent No. 5,989,529 to Kaplan. Claim 12 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Lukenbach in view of U.S. Patent No. 5,916,544 to Liu et al.

Claims 1, 2, 4, 8, and 15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,440,402 to Gonzalez et al. in view of U.S. Patent No. 6,830,746 to SaNogueira et al. and U.S. Patent No. 5,340,567 to Cole et al.

Rejections based on Lukenbach

In maintaining the rejections based on Lukenbach, the Examiner asserts that “about 25%” does encompass the claimed range of “30%” because one skilled in the art would be motivated to manipulate the amount of TiO₂ in order to optimize the sunscreen properties of the resultant composition. Applicants respectfully disagree with the Examiner’s interpretation that 25% reasonably reads on 30%.

Lukenbach does not disclose or suggest a composition in which the amount of TiO₂ ranges from 30% to 35%, by weight as recited in the present claims. It is reiterated that a concentration of 25% is not comparable to a concentration of 30 to 35%. As discussed in Applicant’s previous response, well established Federal Circuit precedent dictates that the range of term “about” must be “interpreted in its technological and stylistic context.” See Ortho-

McNeil Pharm., Inc. v. Caraco Pharm. Labs., Ltd., 476 F.3d 1321, 1326 (Fed. Cir. 2007). The following discussion and excerpts reveal that the Examiner's expansive interpretation of the term "about" is not supported by the technological and stylistic context of the teachings of Lukenbach.

As noted previously, a study of the teachings of Lukenbach reveal that the term "about" as used in the specification should be limited to 25% or less, and should not be interpreted to disclose or suggest a range approaching 30% or greater. For example, Lukenbach states that TiO₂ is "present in the composition in the amount of from about 2% to about 25%. More preferably, it should be present in the amount of from about 2% to about 15%. Most preferably, it should be present in the amount of from about 3% to about 10%." See column 6, lines 24-36. From these excerpts alone, it can be seen that Lukenbach actually teaches a concentration that is significantly less than 25%, and does not therefore disclose or suggest the claimed range from 30% to 35%, by weight. Lukenbach in describing his composition also states that the "specific compositions permit the use of much lower amounts of the sunscreen active ingredients than previously achievable while still achieving the desired high SPF values for the compositions and without the unsightly whiteness which occurs in prior sunscreen compositions at concentrations above about 5%. In the sunscreen compositions of this invention, considerably higher concentrations of titanium dioxide may be used without incurring a whitening effect, e.g., even up to 15% with acceptable appearance, or possibly higher." See column 4, lines 17-22 (emphasis added). In this excerpt, Lukenbach describes that the composition can include "even up to 15%". However, one of ordinary skill in the art would interpret anything above this range as pure speculation. The explicit use of the phrase "possibly higher" reveals that anything above this range is pure speculation and that Lukenbach does not actually even enable ranges having 25% TiO₂, let alone a TiO₂ concentration of 30% or higher.

This interpretation is further reinforced by the Examples of Lukenbach. Lukenbach includes well over 100 different examples of his composition. Not a single one of Lukenbach's examples include a composition having a TiO₂ concentration above 15%, or any examples approaching 25%, let alone the claimed TiO₂ concentration of 30% to 35%. In fact, Lukenbach includes only 3 examples of the more than 100 in which the TiO₂ concentration is greater than 4.5%, and of these, only one example where the TiO₂ concentration is 15%, which is significantly lower than 25%. Thus, according to the teachings of Lukenbach, the amount of in

the composition should be significantly smaller than the upper range of about 25%. As such, one of ordinary skill in the art would not read Lukenbach as embracing a range from 30 to 35% and would not consider the range disclosed in Lukenbach to be comparable to the claimed range. When considering the teachings of Lukenbach as a whole, it is clear that his teachings are contrary to such an assertion, and one of ordinary skill in the art would certainly not be motivated to modify Lukenbach to embrace such a range. If anything, one of ordinary skill in the art would interpret Lukenbach as teaching a TiO₂ concentration range on the order of 4.5%, because the Lukenbach includes well over 100 examples that have this TiO₂ concentration. In view of the clear teachings of Lukenbach, it is respectfully submitted that Lukenbach does not disclose or suggest a composition having a TiO₂ concentration of 30 to 35%. Accordingly, it is respectfully requested that the rejections based on Lukenbach be withdrawn.

The Examiner asserts that a weight percent difference of 5% (from 25% to 30%) is considered reasonable and falls within the range of "about". The Applicants respectfully disagree with this assertion. As noted above, the teachings of Lukenbach do not support such an expansive interpretation. Further, the percent difference between 25% and 30% is not 5% as suggested by the Examiner, but is actually 18.2%. In this regard, Examiner's attention is called to the following equation for calculating percent differences:

$$\% \text{ Difference} = \frac{|x_1 - x_2|}{((x_1 + x_2)/2)} \times 100\%$$

Contrary, to the Examiner's position, a percent difference of 18.2% is not trivial and it is therefore not reasonable for the Examiner to conclude that about 25% falls within the claimed range of 30 to 35%. For this additional reason, the rejections should be withdrawn.

Finally, the Examiner's assertion that it would be obvious to modify the about 25% to fall within the range of 30 to 35 weight % is not supported by the record. In particular, the Examiner has failed to provide any technical evidence or rational showing why the difference between 25% and 30% would be obvious, and hence why of skill in the art would modify Lukenbach to have such a range. This is particularly true, when the teachings of Lukenbach are considered as a

whole. As noted above, Lukenbach includes a significant amount of examples, none of which come close to the upper range of 25 weight percent, let alone the claimed range of 30 to 35 weight %. For this additional reason, the rejections based on Lukenbach should be withdrawn.

Rejections based on Gonzalez

In this rejection, the Examiner is relying on Gonzalez as the primary reference. Cole is relied on by the Examiner for allegedly teaching titanium oxide and zinc oxide in a ratio of 1:8 to 3:1.

Gonzalez is directed to a sunscreen composition and includes a laundry list of possible sunscreen agents that may be used therein. In particular, Gonzalez specifically mentions 22 sunscreen agents that may be used in the composition. See column 2, lines 31-52. Gonzalez also mentions that these agent may be used in combination. Further, Gonzalez cites and incorporates US. Patent No. 5,000,937 as disclosing additional agents that can be used in the practice of the invention. Gonzalez only briefly mentions TiO_2 and ZnO in passing and does not exemplify a composition containing either one of TiO_2 and ZnO . With respect to weight percentages, Gonzalez also describes that the agents may be present in a broad range up to 70 weight percent.

Gonzalez does not disclose or suggest a sunscreen composition having a concentration of TiO_2 that ranges from 30% to 35%, by weight, and a concentration of ZnO ranges from 2% to 25%, by weight. A composition containing 30% to 35%, TiO_2 and/or 2% to 25% ZnO is simply not disclosed or suggested by Gonzalez. Given the litany of possible agents and broad composition ranges of the sunscreen compositions in Gonzalez, one of ordinary skill would not modify Gonzalez to arrive at the claimed invention. In particular, Gonzalez provides no guidance that would lead one of ordinary skill in the art to arrive at the claimed sunscreen composition.

The other cited references also fail to disclose or suggest a range of 30% to 35%, TiO_2 . For example, Cole states that the total composition of ZnO and TiO_2 is from 4 to 25%, well below the claimed range of 30 to 35% TiO_2 and the claimed range of 2 to 25% ZnO . Further, the passage of Cole cited by the Examiner (column 4, lines 62 to 66) mentions a ratio of 3:1 between the pigments. However, in the preceding paragraph, Cole teaches that the total amount of pigments should be 4 to 25% since less than 4% and more than 25% would not render good results. Therefore, someone skilled in the art would not think about using the pigment

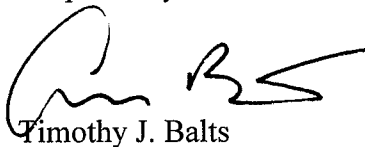
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proportions used in Cole (3:1) when higher amounts of pigments were employed. That is, one of ordinary skill in the art would not be motivated to modify the composition of Gonzalez in view of Cole or SaNogueira to arrive at the claimed invention.

In view of the foregoing remarks, it is respectfully submitted that the rejections under 35 U.S.C. § 103(a) have been overcome and that the pending claims are in condition for immediate allowance.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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